

Morgan Beeby

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EDUCATION	Ph.D., Biochemistry & Molecular Biology University of California, Los Angeles, Los Angeles, USA <i>Advisor:</i> Todd O. Yeates, Ph.D. <i>Dissertation:</i> "Application of comparative genomics to specific biological systems: hyperthermophily and self assembling proteins"	2001 – 2007
	M.Sc., Cognitive Science The University of Birmingham, Birmingham, UK <i>Final project advisor:</i> Aaron Sloman, Ph.D. <i>Thesis:</i> <i>Language acquisition by autonomous agents</i>	2000 – 2001
	B.Sc., Biochemistry & Biotechnology (1st class honours) The University of Birmingham, Birmingham, UK <i>Final project advisor:</i> Christopher Wharton, Ph.D. <i>Thesis:</i> <i>Detection of wine adulteration using FTIR spectroscopy</i>	1996 – 1999
HONORS, AWARDS AND FELLOWSHIPS	University Fellowship, Graduate Division, UCLA Nonresident tuition grant, Graduate Division, UCLA EPSRC M.Sc. scholarship and stipend, UK	2002 – 2007 2001 – 2006 2000 – 2001
RESEARCH EXPERIENCE	The University of California, Los Angeles , Los Angeles, USA <i>Supervisor:</i> Dr. Todd Yeates Research on protein interaction network topology and analysis, correlated mutations in protein families and predictors of protein fold, comparative genomics and correlation with phenotype with an emphasis on hyperthermophily, crystallography of proteinaceous shell proteins (carboxysome and computationally predicted shell proteins), novel methods for deconvolution homology relationships. Emphasis on integrating computational work with empirical biochemistry.	2002 – 2008
	The University of Birmingham , Birmingham, UK <i>Supervisor:</i> Dr. Aaron Sloman Final M.Sc. project involving research into developing a computational model of language acquisition by autonomous agents using a simplistic language model, programming in POP-11, an artificial intelligence language.	Summer 2000
	The University of Birmingham , Birmingham, UK <i>Supervisor:</i> Dr. Christopher Wharton Research as final-year B.Sc. project developing a system using FTIR, neural networks and multivariate analysis to analyze potential adulteration of red wine. Method development and pipelining of analysis with statistical evaluation.	Summer 1999
	The University of Birmingham , Birmingham, UK <i>Supervisor:</i> Dr. Janina C. Eads Undergraduate summer research position refining crystal structure of AHBA synthase resulting in a publication in <i>Biochemistry</i> journal.	Summer 1998

- PUBLICATIONS** Yeates, T.O. and **Beeby, M.** Biochemistry. Proteins in a small world. *Science* **314**, 1882 – 1883 (2006)
- Beeby, M.**, O'Connor, B.D., Ryttersgaard, C., Boutz, D.R., Perry, L.J. and Yeates, T.O. The genomics of disulfide bonding and protein stabilization in thermophiles *PLoS Biol.* **3**, e309 (2005)
- Kerfeld, C.A., Sawaya, M.R., Tanaka, S., Nguyen, C.V., Phillips, M., **Beeby, M.** and Yeates, T.O. Protein structures forming the shell of primitive bacterial organelles *Science* **309**, 936 – 938 (2005)
- Strong, M., Graeber, T.G., **Beeby, M.**, Pellegrini, M., Thompson, M.J., Yeates, T.O. and Eisenberg, D. Visualization and interpretation of protein networks in Mycobacterium tuberculosis based on hierarchical clustering of genome-wide functional linkage maps *Nucleic Acids Res.* **31**, 7099 – 7109 (2003)
- Eads, J.C., **Beeby, M.**, Scapin, G., Yu, T.W. and Floss, H.G. Crystal structure of 3-amino-5-hydroxybenzoic acid (AHBA) synthase *Biochemistry* **38**, 9840 – 9849 (1999)

TEACHING EXPERIENCE

- Teaching assistant, Biochemical Methods II** 2007
 The University of California, Los Angeles, Los Angeles, USA
Instructor: Dr. Stacie Nakamoto
 Taught one academic quarter: Demonstrations and guidance of usage of basic laboratory biochemistry techniques, supervised a groups of twenty senior students through two projects. Independently evaluated and graded laboratory reports.
- Teaching assistant, Introduction to Structure, Enzymes & Metabolism** 2006,
2001 – 2
 The University of California, Los Angeles, Los Angeles, USA
Instructor: Dr. Marjorie Bates
 Taught four academic quarters: weekly preparation of an original 50-minute discussion session for around 25 students per session to augment lecture class, presented three times a week, to pre-medical school students on fundamentals of biochemistry (biological macromolecules, enzymes, thermodynamics and kinetics, core metabolism). Graded quizzes and exams.

SKILLS

- Empirical biochemistry and microbiology**
- Cloning, protein expression, purification and troubleshooting
 - Basic crystallographic skills
 - Biophysical techniques: light scattering, size exclusion chromatography, circular dichroism, electron microscopy, MALDI MS.
- Computational biology and bioinformatics**
- Familiarity with standard bioinformatics databases.
 - Pipelining of bioinformatics methods
 - Development of novel bioinformatics solutions
- General computer and graphic skills**
- Skilled in C++, C, Perl, Pascal, HTML
 - Functional in PHP and Fortran
 - GIMP and Photoshop, POV-Ray
 - OpenOffice and Microsoft office suites, LaTeX / BibTeX

**EXTRA-
CURRICULAR**

Long-term goal-oriented logistical planning and execution as demonstrated by:

- Hiked 2600 miles of *Pacific Crest Trail* from Mexico to Canada, 2007
- Completed the *Furnace Creek 508*, a 508-mile, 48-hour endurance bicycle race, 2005
- Rode 585 miles from San Francisco to Los Angeles, California, and fundraised, as a part of charity ride *AidsLifeCycle3*, 2004

CITIZENSHIP

British

REFERENCES

Professor Todd O. Yeates, Ph.D.

UCLA-DOE Institute for Genomics and Proteomics

E-mail: yeates@mbi.ucla.edu

Professor James U. Bowie, Ph.D.

UCLA-DOE Institute for Genomics and Proteomics

E-mail: bowie@mbi.ucla.edu

Professor Gregory S. Payne, Ph.D.

UCLA Department of Biological Chemistry

E-mail: gpayne@mednet.ucla.edu